BY ORDER OF THE COMMANDER
AIR FORCE MATERIEL COMMAND

AFMC INSTRUCTION 61-102

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Scientific/Research and Development

TECHNOLOGY TRANSITION PLANNING

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction implements AFPD 61-1, *Management of Science and Technology*, and AFI 61-105, *Planning for Science and Technology*. It establishes the process to transition technology from Air Force Science and Technology projects conducted by the laboratories to organizations responsible for development and application in systems. The focus is on upfront planning to provide the user with a technology option to satisfy his needs at an acceptable risk and at a time that meets his development insertion schedule. It does not address technology transfer and disclosure processes necessary to protect technology information dissemination to unauthorized parties. It does not apply to the Air National Guard or US Air Force Reserve units and members.

SUMMARY OF REVISIONS

This revisions aligns the instruction with the new Policy Directive.

1. Terms Defined.

1.1. Advanced Technology Demonstration (ATD). A laboratory project in a 6.3A-funded program with the specific objective of meeting the users' defined needs through risk reducing "proof of principle" demonstrations conducted at the subsystems or higher level in an operationally realistic environment. ATDs are the final laboratory efforts in a given technology before that technology will transition.

1.2. Technology Transition (T2). In general, T2 is the transition of technology from one acquisition phase to another. Specifically, T2 is the transition of technology from the sponsoring laboratory (technology developer) to a technology recipient (see paragraph 1.3 below). Transition ultimately is successful upon incorporation of technology into a system. T2 is considered as occurring through the following two steps:

1.2.1. Technology Demonstration. Technology demonstration is the responsibility of the laboratory and occurs upon the successful completion of the terms and conditions of the technology transition plan (see paragraph 1.4 below).

1.2.2. Technology Application. Technology application is the responsibility of the technology recipient and involves any required further development of the technology (e.g., in a demonstration/validation program); and the actions associated with specification, development, and acquisition of systems incorporating the technology.

1.3. Technology Recipient. AFMC centers and their program offices are the usual recipients of the technology developed and demonstrated by the laboratory. Other recipients could include Air Force major commands, other DoD acquisition agencies, and industry. Industry is a technology recipient since the primary means of inserting technology into systems is through contractors who propose to employ technology in system developments.

1.4. Technology Transition Plan (TTP). An agreement between the laboratory; the product center, test center, or air logistics center; the T2 planning OPR; and the technology recipient that documents the specific tasks that must be successfully completed prior to technology acceptance.

1.5. Engineering Validation. The output of a process which results in confirmation by a panel of experienced engineers that a given technology is suitable for further refinement, application, or use at acceptable risk as documented in a technology summary.

1.6. Technology Summary (TS). A description of an engineering validated or single manager technology that states the level of maturity achieved during the laboratory or center development effort. The TS informs potential users of transition risks to be considered at the time of refinement or application. The TS is often the product of work covered by a Technology Transition Plan.

2. Background Information.

2.1. Air Force Science & Technology (S&T) Program. The objective of Air Force S&T development is the continuing discovery, exploitation, demonstration, and rapid transition of technology to users to meet operational needs. Conceptually, Air Force technology is developed and refined in three distinct phases described in AFPD 61-1: basic research, exploratory development, and advanced technology development. The third phase consists of demonstrations and documentation to show the maturity of technologies that can transition into demonstration/validation, engineering & manufacturing development, or into Air Force combat or support capability. Traditionally, the laboratory has had no control over or direct responsibility for technology application in systems. Accordingly, the laboratories must ensure that transition planning occurs prior to technology demonstration. The labs must also continue to advise the technology recipient as technology is inserted.

2.2. Transition Processes. The primary pathways through which transition occurs include: transition through industry, transition through program offices, transition to AFMC centers' infrastructure, and transition directly to users.

3. Policy.

3.1. The primary mission of Air Force labs is to develop and mature technology options for insertion into Air Force weapon and support systems, including center infrastructure. The focus of technology transition is to provide a range of acceptably demonstrated technology options, each with well-understood benefits and risks, which the MAJCOM, the AFMC center, or the non-AFMC recipient can exploit in subsequent system, support, or infrastructure application. Transition begins when the specific tasks documented in the TTP are satisfactorily completed and an engineering validation Technology Summary is generated. Transition is completed when the technology is incorporated in a system application.

3.2. Product centers, test centers, and ALCs will establish a process for engineering validation. In developing the process, centers will ensure that maximum payoffs from laboratory technology developments are achieved and that systems developments incorporate all appropriate advanced technologies.

3.3. Laboratories will ensure each ATD effort is covered by a TTP prior to contract award. Laboratories will also ensure that each ATD addresses a need generated in response to a MAJCOM deficiency, as documented in a Mission Area Plan. Furthermore, laboratories will ensure that each ATD contains auditable cost estimate documentation. Other 6.3A projects should also be covered by a TTP at the discretion of the laboratory commander.

4. Organizational Responsibilities.

4.1. HQ AFMC/ST will:

- Serve as the HQ AFMC OPR for the overall technology transition process to assure the command T2 objectives are met.
- Through HQ AFMC/STX, serve as the headquarters OPR for TTP policy and guidance.
- Support the laboratories as required in their annual review of ongoing TTPs.
- Designate which TTPs will require user MAJCOM signature.
- Develop and maintain command-level metrics for technology transition.

4.2. AFMC centers will:

- Establish a formal T2 process in coordination with the appropriate laboratories.
- Be responsible for any needed development of transitioned technology beyond 6.3A.
- Ensure the center development plans office participates in the T2 process to identify potential concepts for technology exploitation and to assess operational implications of technology with MAJCOM users.
- Have in place an engineering validation process as described by the Technology Master Process (TMP).
- Designate a T2 planning OPR who will:
- Administer the T2 planning process in conjunction with the technology recipient.
- Ensure specific tasks, conditions, and criteria in the TTP are sufficient to transition a technology to the intended technology recipient. The plan will include, where appropriate, transition options enabling the recipient to apply some technology elements early for a partial solution

to his needs. Criteria must address transition risks of further development, producibility, and supportability to ensure a balanced technology transition package is available to the recipient.

- Certify that the technology is validated for system application when the stated TTP criteria have been met.
- Coordinate the insertion of transitioned technology into system, support, or infrastructure applications.
- As applicable, use the T2 process for transition of laboratory technology developed in other than 6.3A programs.
- Plan for the funding of technology insertion.

4.3. Laboratories will:

- Participate fully in the centers' formal T2 planning processes. When transitioning technology to other than its parent product center, the laboratory will follow the T2 process of the receiving center or non-AFMC recipient.
- Develop a TTP for all ATDs in the format described in the attachment to this AFMCI. All TTPs will be signed prior to the beginning of the ATD.
- Annually review and update all ongoing TTPs. For TTPs requiring a revision, the executing laboratory will document the revision in an annex and have the TTP resigned.
- Designate a T2 focal point, who will:
- Administer the T2 process for the laboratory.
- Ensure the technical efforts cited for transition complete the critical set of specific tasks agreed upon in the TTP.
- Maintain a record of TTPs, completed technology transitions, and procedures.
- Work with the appropriate center to expedite the engineering validation process.

RICHARD R. PAUL, Brigadier General, USAF
Director, Science and Technology

Attachment 1

FORMAT FOR TECHNOLOGY TRANSITION PLAN

Technology Transition Plan

PE63XXXF

Advanced Technology Demonstration (if appropriate or leave blank)

TITLE

A1.1. Technology Capability Description

A1.1.1. MAJCOM Deficiency or Center Technology Council (CTC) need being addressed

A1.1.2. Objective/Approach/Payoff

A1.1.3. Technology Deliverables

A1.1.4. Funding

A1.1.5. Schedule/Technology Availability Date

A1.2. Transition Criteria

A1.2.1. Performance Parameter Measures

A1.2.2. Quantitative Goals

A1.2.3. Level of Demonstration

A1.2.4. Affordability

A1.2.5. Producibility

A1.2.6. Supportability

A1.2.7. Data Documentation Deliverables (engineering validation

Technology Summary, handbooks, criteria, etc.)

A1.2.8. Other Deliverables

A1.3. Transition Strategy

A1.3.1. Transition Opportunities (specific targets and application dates)

A1.3.2. Laboratory Responsibilities

A1.3.3. Technology Recipient Responsibilities

A1.3.4. MANTECH Strategy (required at discretion of center chief engineer)

A1.3.5. Industrial Strategy

A1.3.6. MAJCOM (User) Strategy (required only when requested by the TEO)

NOTE:

Each subsection of above sections, is written in paragraph style. Quanitative Information should be included as necessary. Pages are not specified use whatever necessary.

A1.4. Commitment

The _____ Laboratory	Signed:_____
	Date:_____
The _____Center (T2 OPR)	Signed:_____
	Date: _____
The Technology Recipient* _____	Signed:_____
	Date:_____
The _____ Center**	Signed: _____
(Center Commander)	Date:_____
The Air Force Technology Executive Officer**	Signed:_____
	Date:_____
The MAJCOM**_____	Signed: _____
	Date:_____

*Program Office, etc.

**Signature required only when requested by the TEO